Appl. No. 09/754,169
Amdt. sent July 12, 2004
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group

PATENT

REMARKS/ARGUMENTS

Claims 7 - 12 are pending.

Claims 1, 3, 4, and 6 were rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over Chong Jr., U S. Patent No. 5,896,492, in view of Lubbers et al., U.S. Patent No. 5,774,643.

Claim 2 was rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over Chong and Lubbers in view of Uchiyama et al., U.S. Patent No. 6,408,358.

Claim 5 was rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over Chong and Lubbers in view of Idleman et al., U.S. Patent No. 5,274,645.

Claims 1 - 6 have been cancelled without prejudice or disclaimer, and so the rejections of claims 1 - 6 are believed to be moot.

Claims 7 - 12 have been appended.

The reference to Uchiyama et al.

The instant application and Patent No. 6,408,358 to Uchiyama et al. were, at the time the invention of the instant application was made, owned by Hitachi, Ltd.

The present invention

An aspect of the present invention, as recited in independent claim 7, is a first controller and a second controller, wherein the "first controller [is] configured to detect an error condition therein and in response to detecting said error condition, to communicate an error indication to said second controller." The first controller includes a first current port for exchanging data between a first host and disk devices. A further aspect of the present invention is the "second controller configured to detect receipt of said error indication and in response to receiving said error indication to configure [a] second standby port for data exchange between said first host and said disk devices based on configuration information about said first current port that is stored in said second controller."

The cited references do not show "first controller [is] configured to detect an error condition therein and in response to detecting said error condition, to communicate an error

indication to said second controller." For example, Chong, Jr. discloses that if the primary memory controller is unable to complete a data transfer, a backup memory controller is able to complete the data transfer. *Col. 3, lines 55 - 59, col. 4, lines 14 - 16, and lines, 24 - 28, col. 5, lines 38 - 42.* Chong, Jr. does not disclose any detail as to how the backup memory controller completes the data transfer. Chong, Jr. therefore does not show or suggest a first controller "configured to detect an error condition therein and in response to detecting said error condition, to communicate an error indication to said second controller."

Chong, Jr. does not discuss the processing that occurs in the backup memory controller when it competes the memory transfer for a failed primary memory controller. Chong, Jr. therefore does not show or suggest a "second controller configured to detect receipt of said error indication and in response to receiving said error indication to configure [a] second standby port for data exchange between said first host and said disk devices based on configuration information about said first current port that is stored in said second controller."

Lubbers et al. describe a failover technique in a dual-redundant controller configuration as shown in their Fig. 3. Controllers (21, 22) send keep alive messages to each other at timed intervals. The cessation of communication by one controller causes a "failover" to occur once the surviving controller has disabled the other controller. All attached storage devices continue to be served by the surviving controller because the controllers in a dual-redundant configuration share SCSI-2 device ports and therefore access to all attached storage devices. *Col. 8, lines 7 - 21.* The dual-redundant controllers in Lubbers et al. send "keep alive" messages to each other. A failed controller is detected when it fails to send a keep alive message. Thus, Lubbers et al. do not show or suggest a first controller configured to "communicate an error indication to said second controller" when a failure in the first controller is detected.

Lubbers et al. make note that "[i]f failover is to be achieved, the surviving controller should not require access to the failed controller." *Col. 8, lines 20 - 21.* Lubbers et al. clearly do not show or suggest a second controller as the surviving controller "configured to detect receipt of said error indication and in response to receiving said error indication to

configure [a] second standby port for data exchange between said first host and said disk devices based on configuration information about said first current port that is stored in said second controller."

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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